

Regulatory Activities Affecting the Agricultural Community



Air Resources Board
Agricultural Advisory
Committee
SIP Subcommittee
January 5, 2005



California Environmental Protection Agency
AIR RESOURCES BOARD

SIP Process & Timing

The Next Planning Challenges

Ozone

State 8-hour
being developed

State 1-hour

Federal 8-hour

Federal 1-hour



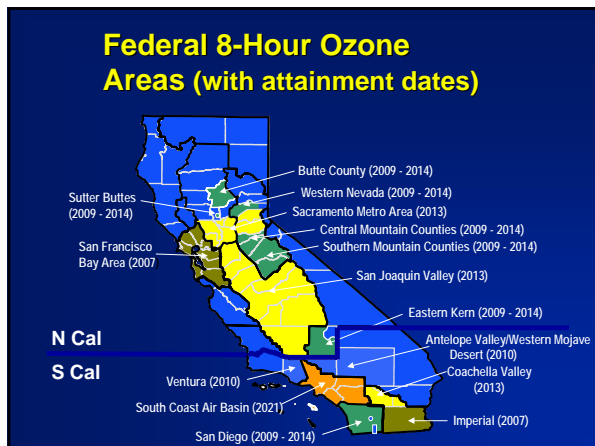
Particles

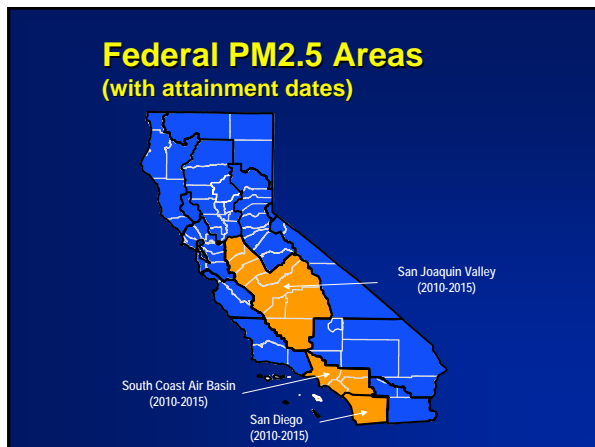
State PM2.5

State PM10

Federal PM2.5

Federal PM10





New Planning Milestones

Emission inventory updates	Early 2005
Preliminary modeling/targets	Mid 2005
Final air quality modeling	2006
Transport analyses	Mid 2006
Control concepts	Mid 2006
Draft plans for public review	Fall 2006
Local & State plan adoption	Early 2007
Ozone plans to U.S.EPA	June 2007
PM2.5/haze plans to U.S. EPA	February 2008

Public workshops to be held about every 6 months

Other Upcoming Activities

2005

- ❖ Board report on CCAA plans/transport
- ❖ Sacramento 8-hr ozone progress SIP
- ❖ Bay Area ozone maintenance SIP
- ❖ South Coast CO maintenance SIP
- ❖ District lists of feasible PM Measures

2006

- ❖ Valley PM10 SIP update
- ❖ Imperial PM10 SIP

Carl Moyer Program Expansion (AB923)

Overview

- ❖ **SB 1107 and AB923:**
 - ◆ Up to \$140 million annually through 2015
 - ◆ Expand covered pollutants: NOx, PM, and ROG
- ❖ **Expand the Carl Moyer Program to include additional agricultural sources**
 - ◆ All agricultural internal combustion engines, confined animal facilities, and other
 - ◆ Work with agricultural groups to prioritize categories
- ❖ **Additional flexibility in funding non-surplus ag and projects with shorter project life**

Carl Moyer Program Funds for Agricultural Sources

- ❖ Projects must meet Carl Moyer Program core requirements: real, quantifiable, surplus, & enforceable
- ❖ Must meet a \$13,600/ton of surplus emissions reduced
- ❖ Availability of Year 7 funds in districts with significant ag sources
 - ◆ San Joaquin Valley - \$2.8 Million
 - ◆ Sacramento Region - \$1.3 Million

Funds for the Agricultural Assistance Program

- ❖ Extra \$2 District DMV Fees
 - ◆ Up to \$55 million
 - ◆ Approved: San Joaquin Valley, Sac Metro, Yolo-Solano, Bay Area, and South Coast
- ❖ Funds for one of four categories, including previously unregulated agricultural sources
 - ◆ Funding for three years from the date of adoption or the compliance date, whichever is later
 - ◆ Projects do not count toward district match
- ❖ \$13,600/ton Cost Effectiveness for Total Emissions Reduced (CETR)

Current Agricultural Source Eligibility for Incentive Funds

	Carl Moyer Program	Agricultural Assistance Program
Tractors	Yes	Not eligible
Ag pumps	Yes	Yes
ICEs	Yes	Yes
CAFs	Evaluation under way	Evaluation under way
Dust	Evaluation under way	Evaluation under way

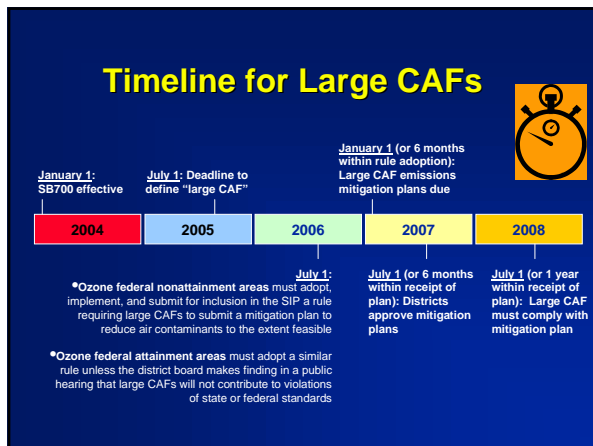
Schedule

- ❖ Expanded Program begins January 2005
 - ◆ \$29.8 MM allocated to districts (Year 7)
- ❖ Program Advisories approved for Year 7
 - ◆ Guidance on new requirements extending already Board-approved policies
 - ◆ Public meetings November and December 2004
- ❖ Develop formal guideline revisions in 2005
 - ◆ Workshops in late March and June 2005
 - ◆ Working group meetings as needed
- ❖ Board Hearing - November 2005

Large Confined Animal Facility Definition

ARB Large CAF Responsibilities

- ❖ On or before July 1, 2005, the state Air Resources Board shall develop a definition for the source category of a "large confined animal facility" (SB700 (Florez) - H&SC 40724.6 (a))
- ❖ In developing the definition the Board shall review all available scientific information including:
 - ◆ Emission factors for confined animal facilities
 - ◆ Effect of those facilities on air quality
 - ◆ Other relevant scientific information
 - ◆ Emissions as they may affect attainment and maintenance of air quality standards



Large CAF Schedule

August 2004	Workshops to solicit input on defining large CAF
January 26, 2005	Seminar to present livestock emissions research data
March 2005	Workshop to discuss staff proposal to define large CAF
May 2005	Release staff report on proposed large CAF definition
June 2005	Public hearing on staff proposals to define large CAF

Livestock Research

❖ Poultry ranch tests
♦ Evaluated all pollutants over two 40 day periods
❖ Dairy tests
♦ Complete dairy upwind/downwind testing (CSU Fresno)
♦ Chamber based testing (UC Davis)
♦ Process specific testing (ARB/SJV Contractor)
♦ Evaluation of dairy emission reduction practices (ARB funding, contractor selection ongoing)

Livestock Research

- ❖ Results from most projects are expected early 2005
- ❖ ARB will host a livestock research workshop on January 26, 2005 to discuss results
- ❖ Results will be used to develop updated livestock emission estimation techniques
- ❖ Stakeholder involvement, review, and approval of results is very important

Schedule - What's Next

- ❖ ARB meeting with:
 - ◆ Environmental groups
 - ◆ Industry representatives
 - ◆ Air districts
 - ◆ California Air Pollution Control Officers Association
 - ◆ Others
- ❖ Research seminar - January 26, 2005
- ❖ Develop staff report with large CAF definition

ARB Contacts

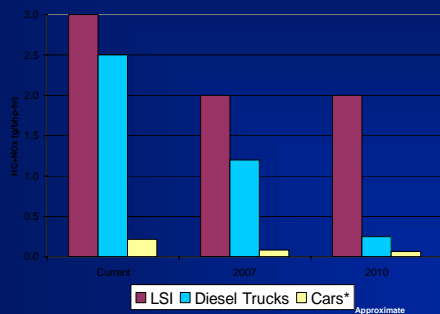
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 - ◆ 916-445-6243
- ❖ Patrick Gaffney
 - ◆ pgaffney@arb.ca.gov
 - ◆ 916-322-7303
- ❖ Mailing Address
 - California Air Resources Board
 - Planning & Technical Support Division
 - 1001 I Street
 - Sacramento, CA 95814
- ❖ Web Address
 - ◆ <http://www.arb.ca.gov/planning/agriculture/agriculture.htm>
 - (see upcoming meetings)

Large Spark-Ignition Engine Regulatory Amendments

Existing and Pending Regulations

- ❖ 1998 ARB LSI Rule
 - ◆ 3.0 g/bhp-hr HC + NOx certification level;
 - ◆ 2000 -2004 phase in - 25 percent increments
- ❖ 2007 EPA Rule
 - ◆ Certification standard of 2.0 g/bhp-hr HC + NOx
 - ◆ Flexible standards (higher CO/lower HC + NOx)
 - ◆ Requires transient test cycle
 - ◆ Optional "Blue Sky" standards
 - ◆ 0.6 g/bhp-hr HC + NOx

Comparative Emissions



Proposed LSI Regulation

- ❖ Harmonize with 2007 EPA rule thru 2009
- ❖ Establish Lower Emission Standard for LSI Engine/Equipment Manufacturers
- ❖ Establish User Fleet Average Req'ts
 - ◆ Allows retrofit of in-use equipment
 - ◆ Encourages use of new zero- and near-zero-emission LSI equipment

User Fleet Average Requirement

- ❖ Establishes large, intermediate, and small fleets
 - ◆ Large fleets = 26 + pieces of equipment
 - ◆ Medium fleets = 4 -25 pieces of equipment
 - ◆ Small fleets = 1-3 pieces of equipment
- ❖ Progressively more stringent emission levels for 2009, 2011 and 2013
- ❖ The larger the fleet, the tighter the level

Working with the Ag Industry

- ❖ Visited agricultural operations
- ❖ Developing agriculture-specific inventory
- ❖ Focused meeting with the agricultural industry on Monday, Jan 10
- ❖ Continued discussions

Additional Information

- ❖ February Workshops
- ❖ April/May Board Hearing

LSI Activity website address:

<http://www.arb.ca.gov/msprog/offroad/orspark/orspark.htm>

Contact information:

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Proposed List of Measures to Reduce Particulate matter

SB656 Major Milestones

- ❖ **November 18, 2004:** ARB, in consultation with air districts, adopted a list of measures for reducing PM
- ❖ **By July 31, 2005:** Air districts must adopt implementation schedules for appropriate measures
- ❖ **By January 1, 2009:** ARB must prepare a report describing actions taken

Criteria for List Development

- ❖ Identify most readily available, feasible, cost-effective measures
- ❖ Use measures adopted in California as of January 1, 2004
- ❖ Consider specified source categories
- ❖ Include measures for directly emitted PM and precursor pollutants
- ❖ Include air district and public consultation

List Categories

- ❖ Residential Wood Combustion
- ❖ Non-Agricultural Open Burning
- ❖ Fugitive Dust
- ❖ Stationary and Area Sources such as combustion and coatings
- ❖ Spare the Air and Incentive Programs

Air District Next Steps

- ❖ Select appropriate subset of measures:
 - ◆ Prioritize based on nature and severity
 - ◆ Evaluate cost-effectiveness and feasibility for district sources
 - ◆ Integrate with ongoing regulatory efforts
- ❖ Conduct public workshop
- ❖ Adopt implementation schedule for selected measures by July 31, 2005 at a public hearing

For Additional Information

❖ SB656 Web Site:
<http://www.arb.ca.gov/pm/pmmeasures/pmmeasures.htm>

❖ Contacts:
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(916) 323-7560

In-Use Stationary Diesel Agricultural Engines/ ATCM/electrification discussion

Stationary Ag ATCM / Electrification

- ❖ Working with San Joaquin Valley Unified Air Quality Management District to align NOx and Diesel PM standards
- ❖ Focus on replacing older engines with new engines or electric motors
- ❖ Discussion with Ag Working Group planned early January
- ❖ ATCM to Board September 2005

Stationary Ag ATCM / Electrification

- ❖ Staff worked with PG&E, SCE and Ag Energy Consumers Association on proposal for rate and line extension incentives
- ❖ December 2004 sent letter of support to PUC

Research Activities

ARB Pesticide Research

- ❖ In-Field Measurement of Agricultural Fumigant VOC Emissions
 - ◆ UC-Riverside, \$200,000
- ❖ Measurement of Pesticide Ozone Reactivity
 - ◆ UC-Riverside, \$99,850
- ❖ Developed with ag community assistance
- ❖ December 2004 - Approved by the ARB RSC
- ❖ January 2005 - Board Meeting consideration

Update on Public/Private On-Road/Off-Road Fleets

Mobile Source Heavy Duty Diesel In- Use Control Measures

- ❖ Public Agency and Utility Fleets
- ❖ Off-Road In-use Equipment
- ❖ On-Road Private Fleets

Diesel PM Reduction Options for In- Use Measures

- ❖ Replacement
 - ◆ Newer equipment meets cleaner standards
- ❖ Repower
 - ◆ Replacement engines are cleaner
- ❖ Aftertreatment/Fuels
 - ◆ Verified technologies reduce emissions

Aftertreatment and Fuels Reduction Options

- ❖ Exhaust Aftertreatment
 - ◆ Passive and Active Diesel Particulate Filters (DPFs)
 - ◆ Flow-thru Filters
 - ◆ Diesel Oxidation Catalyst (DOC)
 - ◆ Urea-SCR Catalyst
- ❖ Fuels
 - ◆ Fuel additives – fuel-borne catalysts
 - ◆ Emulsified Fuels, oxygenated fuels

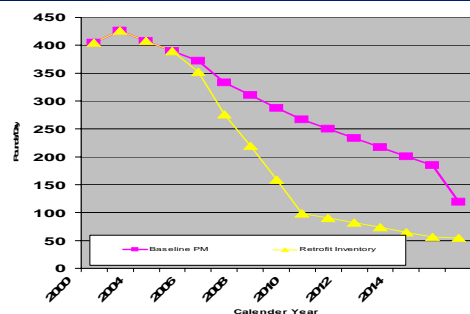
Public Agency and Utility Measure

- ❖ Medium and Heavy Heavy-Duty Diesel On-Road Vehicles
- ❖ Owned, Leased, or Operated
- ❖ Local, State, Federal Agencies and Special Districts and Investor-owned Utilities
- ❖ Does not include school buses, trash trucks, military tactical support, or emergency vehicles

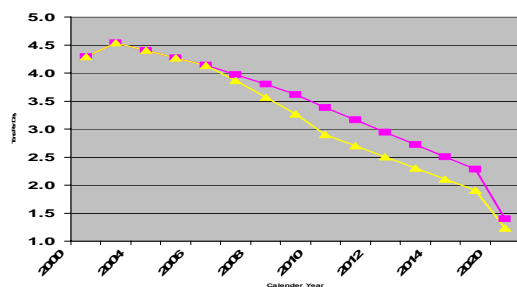
Public Agency and Utility Measure: Proposed Implementation Schedule

Group	Model Years	BACT %	Deadline as of December 31 st
1	1960 – 1987	20	2007
		60	2009
		100	2011
2	1988 - 2002	20	2006
		60	2008
		100	2010
3	2003 – 2006 (includes dual/fuel engines)	50	2009
		100	2010

Public Agency and Utility Measure: PM Benefits



Public Agency and Utility Measure: HC+NOx Benefits



Off Road Equipment Categories

- ❖ Construction
- ❖ Mining
- ❖ Industrial
- ❖ Airport Ground Support Equipment
 - ◆ (non-SCAQMD, non-portable)

Off-Road Equipment Measure Activities

- ❖ Survey (Initial steps in January 2005)
- ❖ Exhaust Temperature Study (Kickoff in January 2005)
- ❖ First Workshop (November 2004)
- ❖ Workgroup Meetings (December 2004; February 2005)
- ❖ Workshops Spring 2005
- ❖ Board consideration in 2006

On-Road Private Fleets

- ❖ First Workshop (Spring 2005)
- ❖ Survey (Summer 2005)
- ❖ Board Consideration in 2006

Update on Port/Rail Activities

Port/Rail Activities

Key Regulatory Activities

- ❖ Board adopted (November 2004) regulation requiring harbor craft and instate locomotives to use CARB diesel
- ❖ Three port-related regulations in process
 - ◆ Cargo Handling Equipment
 - ◆ Harbor Craft
 - ◆ OGV Auxiliary Engine (Fuel Requirement)
- ❖ To Board November 2005

Port/Rail Activities

Key Non-Regulatory Activities

- ❖ Feasibility study on vessel electrification at dock (March 2005)
- ❖ Preliminary discussions on statewide Rail MOU
- ❖ Updating/Expanding ARB's Port and Rail Air Quality Improvement Strategy
- ❖ Cal/EPA, ARB forming Ports and Rail Advisory Group

Above Ground Storage Tanks

Aboveground Storage Tank Enhanced Vapor Recovery

Agenda

- AST Overview
- EVR Overview
- AST Emissions Sources
- Status of Regulatory Item
- Rulemaking Timeline
- Contact Information

AST Overview

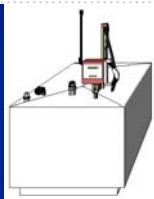


What is an AST?



Current Definition of AST:

A system that uses a gasoline storage tank that is intended for fixed installations, without backfill, is located above or below grade and requires emergency relief venting.



AST Overview

AST



250 Gallon AST on Stand

Examples

1000 Gallon Single Wall AST



AST Overview

AST Examples



2,000 Gallon Protected Tank



4,000 Gallon Single Wall with Processor



12,000 Gallon Protected Tank

EVR Overview

Purpose of Enhanced Vapor Recovery (EVR) for Aboveground Storage Tanks

- To seek additional emission reductions from gasoline marketing operations by increasing the stringency of standards and specifications
- To improve the performance and reliability of vapor recovery equipment

EVR Overview

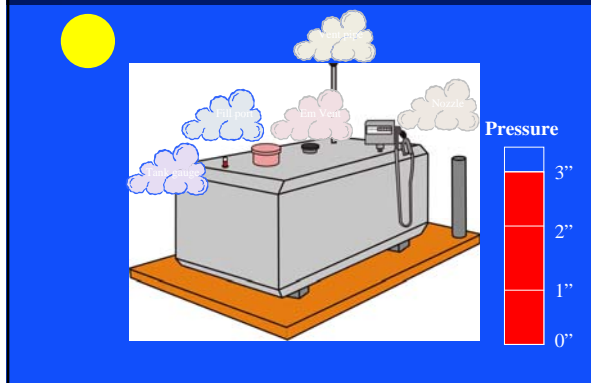
- ❖ In 2000, the Board approved EVR regulations for underground gasoline storage tanks (USTs).
- ❖ A new rulemaking is required to implement EVR for aboveground gasoline storage tanks (ASTs).

EVR Overview

EVR for ASTs is necessary to:

- ❖ Ensure maximum feasible emissions reductions are achieved
- ❖ Improve quality, reliability and durability of AST vapor recovery systems
- ❖ Provide consistency with the UST EVR program

AST Emission Sources



Status of Regulatory Item

- ❖ Revisited Inventory in Response to Industry Concerns
 - ♦ AST inventory survey sent to fuel carriers
 - ♦ Approximately 15% of surveys returned from fuel carriers
 - ♦ Emission inventory
 - ♦ Testing and monitoring being conducted
- ❖ Conducting Further Studies on
 - ♦ Controls
 - ♦ Cost

Rulemaking Timeline

❖ 2004

- ◆ Outreach with Stakeholders: Continuous
- ◆ Workshop Conducted: February
- ◆ Pilot AST Survey Completed: September
- ◆ Workshop Conducted: November
- ◆ Field Monitoring Completed: December

Rulemaking Timeline

❖ 2005

- ◆ Complete AST Survey: January
- ◆ Develop Emissions Inventory Baseline: January
- ◆ Conduct Workshop: Early Spring
- ◆ Evaluate Control Technologies: Late Spring
- ◆ Conduct Workshop: Early Summer
- ◆ Complete Draft Regulatory Package: Summer
- ◆ Conduct Workshops: Late Summer and Fall
- ◆ Board Meeting: Early 2006

Contact Information

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Stationary Source Testing Branch
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❖ William Loscutoff, Chief

Monitoring and Laboratory Division
(916) 445-3742 or wloscuto@arb.ca.gov

Contact Information

Need More Information?

❖ ARB Vapor Recovery Website:

◆ www.arb.ca.gov/vapor/vapor.htm

❖ ARB Aboveground Storage Tank Website:

◆ www.arb.ca.gov/vapor/ast/ast.htm

Airborne Toxic Control Measure (ATCM) for Portable Diesel Engines

General Requirements

❖ What is affected?

◆ Portable engines \geq 50 hp

❖ Requirements

◆ All engines must be certified to an off-road emission standard by 2010

◆ Fleet standards become applicable after 2013

2010 Standard

- ❖ Must be certified to a Tier 1, 2 or 3 off-road emission standard by January 1, 2010
- ❖ Pertinent Exception
 - ◆ Deferment available for engine used exclusively in emergency applications or considered low-use when owner commits to buy Tier 4 engine at early date

Fleet Standards

- ❖ Fleet averages apply in 2013 and get more stringent in 2017 and 2020
- ❖ Definition of Fleet
 - ◆ Includes engines registered with PERP or permitted/registered with districts
 - ◆ Common ownership or control

Fleet Standards

- ❖ Fleet-standard approach offers flexibility to engine owners
 - ◆ Engine replacement
 - ◆ Engine retrofit
 - ◆ Alternative fuel
 - ◆ Electrification

Recordkeeping/Reports

- ❖ Reports
 - ◆ 2011 status report
 - ◆ compliance report due in 2013, 2017, and 2020
- ❖ Recordkeeping limited to
 - ◆ alternative-fueled
 - ◆ electrification
 - ◆ low-use and emergency

Status of ATCM

- ❖ Submitted to Office of Administrative Law on December 30, 2004
- ❖ Should become effective in February 2005
- ❖ 2008 Technology Review

Portable Equipment Registration Program (PERP)

General Requirements

- ❖ SB 700 allows districts to direct portable ag engines into PERP
- ❖ Requirements are same as ATCM

Status of PERP Revisions

- ❖ Current issue under consideration is district program fees
- ❖ Should become effective in February 2005

ARB Contact Information

- ❖ Portable Diesel Engine ATCM
 - ◆ Mike Waugh (916) 445-6018
- ❖ PERP Revisions
 - ◆ Todd Wong (916) 324-8031
- ❖ PERP Implementation
 - ◆ Mike Guzzetta (916) 322-6025

District Regulatory Activities

District Regulatory Activities

- ❖ SB 700 requires Air Districts to:
 - ◆ Receive Title V permit applications by Dec 31, 2004
 - ◆ Issue Title V permits within 3 years
 - ◆ Hold public workshops for rules requiring BACM and BARCT

District Regulatory Activities

- ❖ SB 700 requires:
 - ◆ By Dec 31, 2004, CAPCOA, in consultation with ARB, develop clearinghouse of control measures for agricultural sources
 - ◆ Clearinghouse now operational
 - ◆ www.capcoa.org/Agclearinghouse/index.html

Sacramento Regulatory Activities

- ◆ Held three public workshops in November and December 2004 to present a general ag permitting and fees rule, with adoption expected in June 2005.
- ◆ Will revise Rule 412, "Stationary Internal Combustion Engines Located at Major Stationary Sources of NOx," to include ag sources.

San Joaquin Valley Regulatory Activities

- ◆ Proposed Rule 4204, "Cotton Ginning," limits PM emissions from cotton ginning. Workshop was held October 2004, goes to District Board Feb 2005.
- ◆ Propose removal of ag exemption from Rule 4702, "IC Engines-Phase 2." Next workshops will be Jan 19, 24, 25 2005.

San Joaquin Valley Regulatory Activities

- ◆ Rule 4103, "Open Burning," implements SB 705 by regulating burning of diseased crops.
- ◆ Amended Rule 8081, "Agricultural Sources", which limits fugitive dust emissions from off-field ag sources.

South Coast Regulatory Activities

- ◆ Adopted Rule 1127, "Emissions Reductions from Livestock Waste," that specifies manure removal practices and recordkeeping.
- ◆ Proposed Rule 312, "Special Permitting Fees for Agricultural Sources," specifies fees for existing non-Title V ag sources.
- ◆ Numerous existing rules have added the definition of an ag source to implement SB 700.

Yolo-Solano Regulatory Activities

- ◆ Public workshop on January 18, 2005 for proposed Rule 11.1, "Agricultural Operating Permit Program," a general ag permitting and fees rule.

District Regulatory Activities

- ❖ To help interested parties track progress of ARB and District Rulemaking Activities visit ARB's Agricultural Web Site:
- ❖ www.arb.ca.gov/ag/ag.htm
